

Continuation of Attachment(s) 6). Other: PTOP-413B - Examiner-Initiated Interview Summary (Paper No.: 20100616).

DETAILED ACTION

It would be of great assistance to the Office if all incoming papers pertaining to a filed application carried the following items:

1. Application number (checked for accuracy, including series code and serial no.).
2. Group art unit number (copied from most recent Office communication).
3. Filing date.
4. Name of the examiner who prepared the most recent Office action.
5. Title of invention.
6. Confirmation number (See MPEP § 503).

Response to Arguments

1. Applicant's arguments with respect to claim 1 have been considered but are moot, as applicants contend that the prior art fails to teach the newly amended claims, in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The term "approximate" in claim 5 is a relative term which renders the claim indefinite. The term "approximate" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear

Art Unit: 2624

what size the subimages have to be to be approximately the same size of another subimage.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Onda (U.S. Pat. No.: 5,077,811).

1) Regarding Claim 1, Onda teaches a method for detecting the orientation of images in a set of images representing a similar scene, each image in said set of images containing a similar object (Cols. 3 & 4, Lines 63-68 & Lines 1-6: The image data produced by the image scanner is examined whether the image is in a correct orientation, the images scanned contributing to the set of images, the remaining images contributing to the set of images are the reference characters (Col. 3, Lines 1-3), which is used to determine the orientation of the characters, thus representing a similar scene containing a similar object (characters), thus constituting the set of images), where the method comprises the steps of:

choosing a reference image from the set of images, which orientation is known a priori (Col. 3, Lines 1-3: a second predetermined number of reference characters are provided for comparison with the character images, the reference set being selected from the whole set as explained before, which is known a priori as they are reference characters); and

detecting orientation of at least one other image of said set of images representing a similar scene as a function of the orientation of said reference image (Col. 4, Lines 58 - 66: The image signals for the first scanned character is compared with all of the reference characters. Matching data obtained as the result of the comparison is then stored The procedure is carried out for the next scanned character and so on until all of the characters are compared with the reference characters).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2624

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 through 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onda in view of Chiba et al. (U.S. Pat. No.: 6,744,537, "Chiba").

1) Regarding Claim 2, while Onda teaches the limitations of claim 1, he fails to teach the limitations of claim 2.

However, in the same field of endeavor, Chiba teaches calculating a visual distance between the reference image and the at least one other image (Col. 80, Lines 24-26: computing for distances between an input character and candidate characters in the recognition directory is executed).

Hence the prior art includes each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference.

In combination, Onda's teachings perform the same function as it does separately of choosing a reference image from a set of image and detecting the orientation of another image based on the reference image. Chiba's teachings perform the same functions as it does separately of calculating a visual distance between one (reference) image and a second (one other) image.

The results of the combination would have been predictable due to the fact that calculating a difference in distance between two images allows to recognize the character and correctly orient it quickly using a small number of features (Chiba Col. 78,

Lines 56-67 & Col. 79, Lines 1-2). The results of the combination would have resulted in modifying the invention of Onda to include calculating a visual distance between the reference image and the current input image during Onda's teachings of obtaining matching data (Fig. 3A).

Therefore one of ordinary skill in the art, such as a person having a bachelors degree in the field of electrical engineering, could have combined the elements as claimed by known methods, and that in combination, each element merely performs the same function as it does separately.

2) Regarding Claim 3, the combination of Onda and Chiba teaches the limitations of claim 2, where Chiba further teaches comprising a step of calculating the visual distance between the at least one other image and the reference image (Col. 80, Lines 24-26: computing for distances between an input character and candidate characters in the recognition directory is executed), wherein the at least one other image and the reference image are provided in a first orientation, the at least one other image and the reference image having undergone a rotation of 90 degrees (Col. 80, Lines : the image direction correcting section checks the rotation angle or mirroring of an image having the highest recognition certainty or highest probability of accurate recognition among the images BG1 to image BG8 shown in Figure 50. The image with the highest certainty or probability (the closest distance between the input and candidate characters as outlined in claim 2 above is given a higher probability/certainty) is selected as the most correctly orientated image. Figure 50, BG 3 is rotated 90 degrees), 180 degrees (Figure 50, BG 8 is rotated 180 degrees), or 270 degrees (Figure 50, BG 2 is rotated 270 degrees (-90 or counterclockwise)).

3) Regarding Claim 4, the combination of Onda and Chiba teaches the limitations of claim 3, where Chiba further teaches comprising a step of determining a subimage in the reference image and a subimage in the at least one other image, the calculation of the visual distance between the at least one other image and the reference image being performed on the respective subimages (Figure 48: Original image is shown as a full page containing an subimage, BG 5. The rotation and distance is performed on the subimages as outlined in analysis of Claims 2 & 3 above (Also seen in Figure 50)).

4) Regarding Claim 5, the combination of Onda and Chiba teaches the limitations of claim 4, where Chiba further teaches wherein said subimages have the same approximate size (Figures 48 & 50: Figures or original and subimage are same in relative size. Figure 50, the subimages are same as well).

5) Regarding Claim 6, the combination of Onda and Chiba teaches the limitations of claim 4, where Chiba further teaches wherein said subimages are centered with respect to the images in which they are positioned (Figure 48: The subimage "F" in BG 1 is centered with respect to the image in which it is positioned).

6) Regarding Claim 7, the combination of Onda and Chiba teaches the limitations of claim 4, where Chiba further teaches wherein said subimages are positioned in such a way that the visual distance between said subimages are minimal (Figure 47: Subimages are positioned as to minimize the distances between set of subimages).

7) Regarding Claim 8, while Onda teaches the limitations of claim 1, he fails to teach the limitations of claim 8.

However, in the same field of endeavor, Chiba teaches comprising a step of selecting the reference image as a function of the distance between the reference image and a target image (Col. 80, Lines 28-30: A candidate character (reference image) having the minimum distance is recognized as a final candidate (target image) for the inputted character).

Hence the prior art includes each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference.

In combination, Onda's teachings perform the same function as it does separately of choosing a reference image from a set of image and detecting the orientation of another image based on the reference image. Chiba's teachings perform the same functions as it does separately of selecting the reference image as a function of the distance between the reference and target image.

The results of the combination would have been predictable due to the fact that selecting a reference image which closely resembles the target image based on the distance between the two images ensures that the process is not slowed down by comparing all reference characters to an image and using the distance uses a small number of features to determine orientation (Chiba Col. 78, Lines 56-67 & Col. 79, Lines 1-2). The results of the combination would have resulted in modifying the invention of Onda to include selecting a reference image as a function of the distance between the reference and target image prior to Onda's teachings of obtaining matching data (Fig. 3A).

Therefore one of ordinary skill in the art, such as a person having a bachelors degree in the field of electrical engineering, could have combined the elements as claimed by known methods, and that in combination, each element merely performs the same function as it does separately.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nirav G. Patel whose telephone number is (571)270-5812. The examiner can normally be reached on Monday - Friday 8 am - 5 pm EST.

Art Unit: 2624

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nirav G. Patel/
Examiner, Art Unit 2624

/CHARLES KIM/
Primary Examiner, Art Unit 2624